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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

MOORE JR, MICHAEL J

ART UNIT

PAPER NUMBER

2666

DATE MAILED: 11/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/823,871

Applicant(s)

STILES ET AL.

Examiner

Michael J. Moore, Jr.

Art Unit

2666

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 and 28-67 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13-25 and 28-67 is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 September 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. Replacement drawings of Figures 5A to 5C, 7 and 8 were received on 9/13/2005. These drawings are acceptable and have been entered. However, replacement drawings of Figures 1, 3, and 4 containing Applicant's amendments (See Figures section of Remarks) have not been received. It is requested that these replacement drawings be provided in response to this Office Action.

Claim Objections

Amendments made by Applicant to obviate the claim objections made in the previous Office Action are proper and have been entered. These objections have been withdrawn.

Claim Rejections - 35 USC § 112

Amendments made by Applicant to obviate the rejections of claims **17, 37, 38, and 60** made under 35 U.S.C. § 112 2nd paragraph in the previous Office Action are proper and have been entered. These rejections have been withdrawn.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims **1-12** are rejected under 35 U.S.C. 102(e) as being anticipated by Elliot et al. (U.S. 6,587,470) ("Elliot"). Elliot teaches all of the limitations of the specified claims with the reasoning that follows.

Regarding claim **1**, "a single network element including a full TDM cross-connect coupled to every line card slot in the single network element with the same amount of bandwidth connection, wherein the full TDM cross-connect is programmable on an STS-1 basis, and a multiple ring unit to simultaneously support multiple TDM rings" is anticipated by SONET network element 1460 (single network element) of Figure 14B that contains a cross-connect (multiple ring unit) that supports multiple optical rings as spoken of on column 17, lines 26-29 and further by cross-connect 120 shown in Figure 1 coupled to high-speed network interface subsystems 200 that contain multiple network interfaces operating at the same speed as spoken of on column 6, lines 17-21.

Regarding claim **2**, "wherein a line card with multiple ports can be installed in any one of the line card slots" is anticipated by high-speed network cards 400 of Figure 4A that are installed in the network rack as shown.

Regarding claim **3**, "wherein the amount of bandwidth connection is OC-48" is anticipated by the OC-48 interface card slot support spoken of on column 3, lines 29-31.

Regarding claim **4**, "wherein the line card slots number greater than 6" is anticipated by the rack of Figure 4A containing 17 line card slots.

Regarding claim **5**, "a protection group manager structure of which an instance is formed for each ring provisioned in the single network element, the protection group manager structure including, a ring ID to distinguish between the different rings

simultaneously provisioned in the single network element, and a ring map” is anticipated by BLSR connection map manager 1160 of Figure 11 that maintains information related to ring configurations as spoken of on column 15, lines 25-28.

Regarding claim 6, “an east and west protection unit to identify ones of the line card slots, as well as ports on line cards inserted in those line card slots” is anticipated by equipment & link state manager 1120 of Figure 11 that maintains information about the state of each slot, card and communications link as spoken of on column 15, lines 1-4.

Regarding claim 7, “a line card manager structure of which an instance is created for each line card inserted in the line card slots” is anticipated by provisioning manager 1110 of Figure 11 that manages a provisioning database associated with network interface cards as spoken of on column 14, lines 51-56. “A port manager structure of which an instance is created for each port of each line card in the line card slots” is anticipated by equipment & link state manager 1120 of Figure 11 that maintains information about the state of each slot, card and communications link as spoken of on column 15, lines 1-4. “A multi-ring manager structure to store identification information regarding each ring provisioned in the single network element” and “a protection group manager structure of which an instance is created for each ring provisioned in the single network element” is anticipated by BLSR connection map manager 1160 of Figure 11 that maintains information related to ring configurations as spoken of on column 15, lines 25-28. Lastly, “a network management system interface to be coupled to instances of the line card manager, the port manager, the multi-ring manager, and the

protection group manager structures” is anticipated by network management interface 1100 of Figure 11 coupled to provisioning manager 1110, equipment & link state manager 1120, and BLSR connection map manager 1160.

Regarding claim **8**, “wherein the protection group manager structure includes: a ring ID to distinguish between the different rings simultaneously provisioned in the single network element; and a ring map” is anticipated by BLSR connection map manager 1160 of Figure 11 that maintains information related to ring configurations as spoken of on column 15, lines 25-28.

Regarding claim **9**, “wherein the single network element is to transmit OAM&P information within a first set of DCC bytes of a SONET signal to a first network element that is to connect to the single network element and to transmit the OAM&P information within a second set of DCC bytes of the SONET signal to a second network element that is to connect to the single network element, wherein a size of the first set of DCC bytes is different from a size of the second set of DCC bytes” is anticipated by system communication link 352 of Figure 3 used to transport control signaling using DCC bytes 711-713 shown in Figure 7 and spoken of on column 11, lines 49-61.

Regarding claim **10**, “wherein the first network element is to be included in a first TDM ring of the multiple TDM rings and wherein the second network element is to be included in a second TDM ring of the multiple TDM rings” is anticipated by the ring composed of ring segments 1350 shown in Figure 14B as well as the ring composed of ring segments 1450 shown in Figure 14B.

Regarding claim **11**, "wherein the single network element is to communicate to a different network element through a SONET signal such that the single network element is to communicate OAM&P information to the different network element with Data Communication Channel bytes associated with any of the STS frames within the SONET signal" is anticipated by system communication link 352 of Figure 3 used to transport control signaling using DCC bytes 711-713 shown in Figure 7 and spoken of on column 11, lines 49-61.

Regarding claim **12**, "wherein the SONET signal includes an OC-48 signal" is anticipated by the OC-48 interface card slot support spoken of on column 3, lines 29-31.

Allowable Subject Matter

4. Claims **13-25 and 28-67** are allowable over the prior art of record.
5. The following is a statement of reasons for the indication of allowable subject matter:

Regarding amended claim **13**, the prior art of record fails to teach where one of the multiple TDM rings is a TDM access ring coupled to customer premise equipment.

Regarding claims **14-20**, these claims are further limiting to claim **13** and are thus also allowable over the prior art of record.

Regarding amended claim **21**, the prior art of record fails to teach where one of the rings includes other network elements that are coupled to customer premise equipment by TDM access rings.

Regarding claims **22-25 and 28-34**, these claims are further limiting to claim **21** and are thus also allowable over the prior art of record.

Regarding claims **35-67**, these claims are allowable for the reasons indicated in the previous Office Action.

Response to Arguments

6. Applicant's arguments with respect to *amended* claims **13-25 and 28-34** have been fully considered and are persuasive. These rejections have been withdrawn.

7. Applicant's arguments with respect to claims **1-12** have been fully considered but they are not persuasive.

Regarding claim **1**, Applicant argues that *Elliot* teaches a cross-connect connected to both high speed and low speed interface subsystems in connections of different speeds rather than a cross-connect coupled to every line card slot with each connection having a same bandwidth between each of the multipurpose slots and the cross-connect.

However, *Elliot* teaches multiple network interfaces within each of the high-speed network subsystems 200 and low-speed network subsystems 220 that operate at the same, respective high or low speed.

Giving a broadest reasonable interpretation of the claim language, "*a full TDM cross-connect coupled to every line card slot in the single network element with the same amount of bandwidth connection*" can be interpreted to mean a cross-connect device providing a same speed (bandwidth) connection to multiple high-speed interfaces while providing a same speed (bandwidth) connection to multiple low-speed interfaces.

Therefore, it is held that *Elliot* anticipates this limitation.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Moore, Jr. whose telephone number is (571) 272-3168. The examiner can normally be reached on Monday-Friday (8:30am - 5:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema S. Rao can be reached at (571) 272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael J. Moore, Jr.
Examiner
Art Unit 2666

mjm M.M.



DANG TON
PATENT EXAMINER